

CLAIMS

1. Method for gluing together two disc halves (5, 21) to produce a disc (23), for example an optical data carrier, such as a DVD, comprising the steps of:

5      - placing one disc half (5) on a rotary member (3, 4);  
- applying a quantity of glue (20) to the disc half (5) in a central region thereof;  
- placing the second disc half concentrically onto the first disc half (5), so as to enclose the glue (20);  
10     - rotating the rotary member (3, 4) with the two disc halves (5, 21) in such a manner that, under the influence of the centrifugal force which is generated, the glue (20) spreads along an expanding front between the two disc halves (5, 21);  
- stabilizing the glue which is immediately behind the glue front by means of light radiation;  
15     - curing the glue (20);  
- removing the glued-together disc halves (5, 21) from the rotary member (3, 4) and the mandrel (6).

20    2. Method according to Claim 1, comprising the step of stabilizing the glue behind the glue front by means of UV light radiation.

3. Method according to Claim 1 or 2, for gluing together two disc halves (5, 21) which are each provided with a central hole (6), comprising the steps of:

25     - placing one disc half (5) on a rotary member (3, 4) provided with a mandrel (7) in such a manner that the mandrel (7) fits through the central hole (6) in the said disc half (5);  
- expanding the mandrel (6) in such a manner that it comes to bear flush against the wall of the central hole (5) of the disc half which was put in place first;  
30     - then applying the quantity of glue (20) to the said disc half (5);  
- placing the second disc half concentrically onto the first disc half (5) over the mandrel (6), so as to enclose the glue (20);

- rotating the rotary member (3, 4) with the two disc halves (5, 21) in such a manner that, under the influence of the centrifugal force which is generated, the glue (20) spreads along an expanding front between the two disc halves (5, 21);
- stabilizing the glue which is immediately behind the glue front by means of light radiation;
- curing the glue (20);
- removing the glued-together disc halves (5, 21) from the rotary member (3, 4) and the mandrel (6).

10

4. Method according to Claim 1, 2 or 3, comprising the step of providing a mandrel (6) which has a relatively hard core (8) and a flexible sleeve which surrounds the core (18), and expanding the sleeve (12) by means of compressed air.

15

15 5. Method according to one of the preceding claims, comprising the steps of:

- putting the first disc half (5) in place;
- then expanding the mandrel (6);
- then applying glue (20) to the first disc half (5);
- then placing the second disc half (21) over the expanded mandrel (6),  
20 taking with it any glue (20) adhering thereto.

20

6. Device for gluing together two disc halves (5, 21) to produce a disc (23), for example an optical data carrier such as a DVD, using the method according to one of Claims 1-5, comprising a rotatable carrier (3, 4) on which the disc halves (5, 21) can be accommodated, characterized in that a light radiation source is provided which emits a light beam for curing the glue.

25

7. Device according to claim 6, wherein the light beam can be displaced in the radial direction with respect to the mandrel.

30

8. Device according to Claim 6 or 7 for gluing together two disc halves (5, 21) which are each provided with a central hole (6), in which the carrier (3, 4) is

provided with a mandrel (6) which can be fitted through the central holes (5) in the disc halves, the mandrel (6) being expandable in the radial direction.

9. Device according to Claim 7 or 8, in which the mandrel (6) comprises a central core (8) and a flexible sleeve (12) which is connected to the core (8) in an airtight manner, which core (8) has an air-supply duct (9, 10) which opens out into the interior of the flexible sleeve (12).
10. Device according to Claim 7, in which the mandrel (6) comprises a cylindrical core (8) provided with a central air-supply duct (9) to which at least one radial transverse duct (10), which opens out on the outer surface of the core (8), is connected.
11. Device according to Claim 10, in which the core (8) comprises a constricted region (11) in which the sleeve (12) is accommodated.
12. Device according to Claim 11, in which the sleeve is clamped in at both ends between a clamping ring (15, 16).
- 20 13. Device according to one of Claims 6-12, in which the sleeve (12) has at least one internal recess (13), and the mandrel (6) has at least one corresponding ridge (14) which engages in the recess (13).